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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,672	03/29/2004	Sebastian Huther	H01.2-11499US01	1410
490	7590	06/15/2006	EXAMINER	
VIDAS, ARRETT & STEINKRAUS, P.A. 6109 BLUE CIRCLE DRIVE SUITE 2000 MINNETONKA, MN 55343-9185			BURCH, MELODY M	
			ART UNIT	PAPER NUMBER
			3683	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/811,672	Applicant(s) HUTHER ET AL.	
	Examiner Melody M. Burch	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because elements 56, 58, and 60 should be included as inputs as described, the box to the left of element 48 should be deleted, the output at the bottom of box 22 should be deleted, arrows should be connected from box 40 to box 50 and from box 42 to box 50, arrow 52 should be outputted from box 50, and element 54 should be placed in the line between box 50 and box 12. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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2. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

3. The disclosure is objected to because of the following informalities: in the paragraph starting on pg. 6 line 10 the phrase "The controller 50 always generates... shown at 54" should be reworded to use the language set forth in claim 5 and the added phrase "Lifting height sensor...are shown input to brake control device 18" should be reworded to say that the sensors are --shown as inputs--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application 2003/0127289 to Elgas et al. in view of US Patent 3289062 to Dannetell and US Patent 4421213 to Brosius et al.

Re: claim 1. Elgas et al. show in figures 1 and 6 a braking system capable of being used for battery powered industrial trucks, the system comprising a motor 3 which drives a driving wheel 7, a first braking device associated with the driving wheel, a control device for the driving motor through which the torque of the driving motor is controlled, a first conversion unit shown in the control device which converts the first braking signal into a desired torque value for the driving motor T_{nom} , a second conversion unit in the control device which detects and converts the actual torque value T_{act} of the driving motor into an actual braking amount value and generates an actual signal that is inputted into element 22, the braking device being controlled by a braking control device through a second braking signal outputted from element 14, the braking control device including a comparator device shown at the junction between elements 21 and 22 wherein the first braking signal is compared with the actual signal to form the second braking signal for the braking device.

Elgas et al. lack the motor being a three phase driving motor and lack the limitation of the torque value being converted into an actual braking force value.

Dannettell shows in figure 1 the use of a three phase motor 13 in an industrial truck. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the motor of Wagner et al. to have been a three phase motor, as taught by Dannettell, in order to provide a motor having lower locked

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rotor currents; higher starting torque; lower full load currents; and improved reliability due to the elimination of the starting capacitor required in a PSC motor circuit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the braking system of Elgas et al., as modified, to have been utilized on an industrial truck, as taught by Dannetell, in order to provide a means of stopping an industrial truck to enable loading and unloading.

Elgas et al. lack the teaching of a brake operating member from which the desired torque is derived.

Brosius et al. teach in col. 3 lines 65-68 the use of a brake pedal being used to obtain a nominal torque amount.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the desired torque of Elgas et al. to have been derived from the brake operating member or pedal, in view of the teachings of Brosius et al., in order to provide a means of braking according to operator's braking requests.

Re: claim 2. See figure 6 element 10 of Elgas et al.

6. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elgas et al. in view of US Patent 3289062 to Dannetell and Brosius et al. as applied to claim 1 above, and further in view of EP-0908348 (EP'348).

Re: claim 3. Elgas et al., as modified, lack the limitation of generating a hard stop signal.

EP '348 teaches in paragraph [0036] of EP '348 the limitation of the brake control device generating a hard stop signal (or supplementary braking signal) for the first braking device 36 when the braking signal of the braking signal generator becomes a maximum (the maximum in this case is 50% of maximum depression).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the braking system of Elgas et al., as modified, to have included the generation of a hard stop signal when the braking signal of the braking signal generator becomes a maximum, as taught by EP'348, in order to provide a means of maximizing braking capacity when braking demands are high in order to improve safety.

Re: claim 6. Elgas et al., as modified, lack travel direction sensor.

See paragraph [0043] of EP'348 in which it is explained that a travel direction sensor varies the second desired braking force in dependence on the direction of travel of an industrial truck.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the braking system of Elgas et al, as modified, to have included a travel direction sensor, as taught by EP'348, in order to provide a means of actively controlling the braking capacity based on the current conditions of the vehicle for improved brake performance.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elgas et al. in view of US Patent 3289062 to Dannetell and Brosius et al. as applied to claim 1 above, and further in view of US Patent 6805415 to Isono et al.

Elgas et al., as modified, lack the limitation of the generating a hard stop signal when a monitoring device receives an error signal.

Isono et al. teach in col. 26 lines 48-53 the limitation of generating a hard stop signal (or maximum braking for a first braking device (on rear wheel side)) when a monitoring device (or unit which determines the disclosed failure condition) receives an error signal (or evidence of failure) with regard to a second braking device (on front wheel side).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Elgas et al., as modified, to have included a monitoring device, as taught by Isono et al., in order to provide a means of compensating for the failure of one braking device by increasing the braking on the other braking device for improved vehicle safety.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elgas et al. in view of US Patent 3289062 to Dannetell and Brosius et al. and EP'348 as applied to claim 3 above, and further in view of JP-4117105 (JP'105).

Elgas et al., as modified, fail to include the limitation of providing a hard stop signal via a time delay member.

JP'105 teaches in lines 3-5 from the bottom of the constitution the limitation of providing a hard stop signal or emergency brake signal via a time delay member 10.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Elgas et al., as modified, to have included a time delay member, as taught by JP'105 in order to provide a means of

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accurately controlling and having the capability to adjust when a hard stop braking will occur.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elgas et al. in view of US Patent 3289062 to Dannetell and US Patent 6122585 to Brosius et al. as applied to claim 1 above, and further in view of GB-2293364 (GB'364).

Elgas et al., as modified, fail to include the limitation of a lifting height sensor.

GB'364 teaches in the abstract the use of a brake system for an industrial truck including a height sensor 6 and having the braking force varied in dependence of the lifting height as taught in lines 1-2 of the abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Elgas et al., as modified, to have included a lift height sensor in an industrial truck brake system, in view of the teachings of GB'364, in order to provide a means of controlling braking torque as a function of the elevation height of the forks for providing smooth retardation of an industrial truck vehicle.

Response to Arguments

10. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

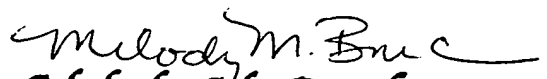
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan can be reached on 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mmb
June 12, 2006


Melody M. Burch
Primary Examiner
Art Unit 3683
6/12/06